

**From:** Joy, Joe (ECY)  
**Sent:** Tuesday, October 13, 2009 3:21 PM  
**To:** Ragsdale, Dave (ECY)  
**Subject:** FW: Hangman Creek Total Phosphorus Loading Questions  
**Attachments:** Hangman Creek Total Phosphorus Loading Explanation.docx

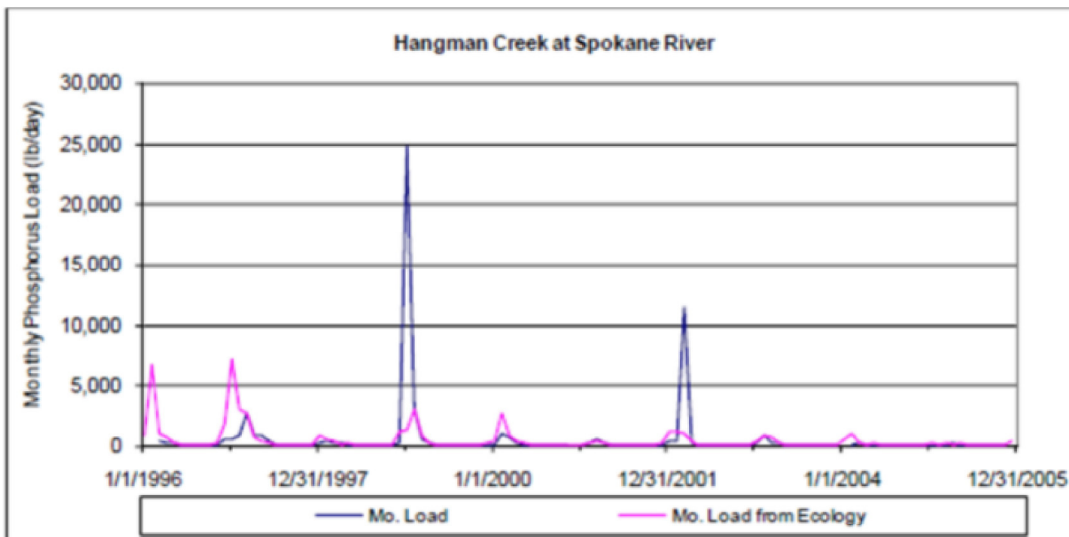
Dave – Here's the final. The earlier one is a draft.  
 Joe

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**From:** Joy, Joe (ECY)  
**Sent:** Monday, October 12, 2009 1:54 PM  
**To:** Moore, David (ECY); Snouwært, Elaine (ECY); Ross, James D. (ECY)  
**Cc:** Baldwin, Karin K. (ECY); Knight, David T. (ECY ERO); Arnold, Gary (ECY)  
**Subject:** Hangman Creek Total Phosphorus Loading Questions

Hi –

Evidently there is some concern among interests in the Spokane River watershed about preliminary Hangman Creek total phosphorus (TP) loads I calculated last year when we thought we were addressing TP in the first TMDL. Specifically, the figure below was generated by HDR Engineering for a nonpoint assessment of Spokane River phosphorus sources. Subsequent workgroup discussions have wondered why Ecology has 'underestimated' peak month average loads compared to the observed data. The attached paper is a brief explanation of what I believe causes the differences. I'm hoping you can use it as an educational tool in these workgroups so that phosphorus loading seasonal patterns and impacts can be better understood and compared between sources.



I'm available to field comments or questions about the paper. I'll probably jump into the fire next year when we really do address TP, nitrogen, dissolved oxygen and pH in Hangman Creek.

Joe

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